

IN THE CLAIMS

Please amend the claims as follows, substituting any amended claim(s) for the corresponding pending claim(s):

- 1 1. (Currently Amended) A method for transferring call control to a backup call server, comprising:
2 monitoring a primary call server to determine an active or inactive state of said primary call
3 server; and
4 upon receipt of an inactive state for said primary call server, forwarding signaling messages from
5 a signaling gateway of a plurality of signaling gateways to a backup call server wherein each ~~signaling~~
6 ~~gateway of the signaling gateways~~ may have associated a different backup call server.
- 1 2. (Currently Amended) The method of claim 1 wherein the step of forwarding signaling messages
2 further includes encapsulating the signaling message in a data packet with the destination address of the
3 backup call server ~~of the backup server~~.
- 1 3. (Original) The method of claim 1 wherein the step of forwarding signaling messages further
2 includes mapping a new destination address from the signaling gateway to the backup call server.
- 1 4. (Currently Amended) The method of claim 1 wherein a plurality of signaling ~~gateways each~~
2 ~~distribute signaling messages gateways, each of the signaling gateways operable to distribute signaling~~
3 messages destined for the primary call server to a plurality of backup call servers.
- 1 5. (Currently Amended) The method of claim 1 further including determining the primary call
2 server has transitioned to the active state from the inactive state and subsequently thereto, forwarding
3 ~~signaling the signaling messages~~ to the primary call server.
6. (Cancelled)
- 1 7. (Original) The method of claim 5 wherein the primary call server is provisioned to process
2 different signaling messages from what it would have processed prior to transitioning to the inactive state.
- 1 8. (Currently Amended) The method of claim 1 wherein the primary call server and backup call
2 server each comprise at least one of a Mobile Switching Center (MSC), a Gateway MSC (G-MSC), or a
3 Home Location Register (HLR) ~~one of an MSC, a G-MSC, or an HLR~~.

9. (Original) The method of claim 1 wherein the primary call server also functions as a backup call server and further wherein the backup call server also functions as a primary call server.

10. (Currently Amended) A method for ~~transferring call control to a backup call server~~ redundant call control, comprising:

transmitting call setup signals between a calling party mobile station and a Base Station Controller (BSC) ~~a BSC~~;

transmitting call setup signals between the BSC and ~~an originating MSC~~ an originating Mobile Switching Center (MSC); ~~;~~

~~transmitting call setup signals between the originating MSC and a gateway-MSC (G-MSC) by way of a first signaling gateway, and between;~~

~~transmitting call setup signals from the G-MSC to an HLR~~ the G-MSC and a Home Location Register (HLR), wherein the call setup signals are transmitted between the G-MSC and the HLR by way of a second signaling gateway, to determine a destination MSC;

transmitting destination MSC information from the HLR to the G-MSC by way of the second signaling gateway;

~~upon determining that the destination MSC has failed~~ when the destination MSC fails, routing the ~~call setup signals~~ call setup signals received from the G-MSC to a backup MSC and establishing a ~~connection~~ a call connection between the backup MSC and the originating MSC;

~~upon determining that the G-MSC has failed~~ when the G-MSC fails, routing the call setup signals received for the G-MSC to a backup G-MSC and establishing ~~a connection~~ a call connection between the backup G-MSC and the originating MSC; and

establishing a call connection between the calling party mobile station and a called party mobile station using at least one of the backup G-MSC and the backup MSC.

11. (Currently Amended) The method of claim 10 wherein the step of routing the call setup signals from the G-MSC to the backup MSC further comprises routing a first portion of the call setup signals from the G-MSC to a first backup MSC and a second portion of the call setup signals from the G-MSC to a second backup MSC, the backup MSC including the first backup MSC and the second backup MSC.

12. (Currently Amended) The method of claim 10 wherein the step of routing the call setup signals from the G-MSC to the backup MSC further comprises routing a first portion of the call setup signals to a first backup G-MSC and a second portion of the call setup signals to a second backup G-MSC, the backup G-MSC including the first backup G-MSC and the second backup G-MSC.

1 13. (Currently Amended) A cellular network, comprising:
2 a Gateway Mobile Switching Center (G-MSC) ~~a G-MSC~~ for establishing call connections
3 between originating MSCs and destination MSCs;
4 a Home Location Register (HLR) ~~a HLR~~ for providing location information to the G-MSC as a
5 part of call setup;
6 at least one signaling gateway coupled ~~between G-MSC and the HLR~~ between the G-MSC and
7 the HLR;
8 wherein the HLR determines a primary MSC to serve as a destination MSC for a call being setup
9 based upon a called party mobile station location;
10 wherein the HLR transmits call signaling messages to the at least one signaling gateway ~~coupled~~
11 ~~between the HLR and the G-MSC~~; and
12 wherein the at least one signaling gateway redirects that call signaling messages to a backup G-
13 MSC upon detecting that the G-MSC is in an inactive state.

1 14. (Currently Amended) A cellular network, comprising:
2 a Gateway Mobile Switching Center (G-MSC) ~~a G-MSC~~ for establishing call connections
3 ~~between originating MSCs and destination MSCs~~;
4 a Home Location Register (HLR) ~~a HLR~~ for providing location information to the G-MSC as a
5 part of call setup;
6 a first signaling gateway within ~~a first plurality of signaling gateways~~ a plurality of signaling
7 gateways coupled between each of a plurality of MSCs and the G-MSC;
8 a second signaling gateway within the plurality of signaling gateways coupled between the G-
9 MSC and the HLR;
10 wherein the HLR ~~reports~~ identifies a destination MSC for a call being setup based upon a called
11 party mobile station location record maintained in the HLR and;
12 ~~wherein the HLR~~ transmits call signaling messages to the second signaling gateway ~~second~~
13 ~~gateway coupled between the HLR and the G-MSC~~; and
14 wherein the second signaling gateway redirects the call signaling messages to a first backup G-
15 MSC upon detecting that the G-MSC is in an inactive state; and
16 wherein the first signaling gateway redirects the call signaling messages to a second backup G-
17 MSC upon detecting that the G-MSC is in an inactive state.

1 15. (Currently Amended) The cellular network of claim 14 wherein the second gateway coupled
2 between the G-MSC and the HLR ~~between G-MSC~~ and the HLR comprises one of a plurality of signaling gateways.

1 16. (Original) The cellular network of claim 14 further comprising at least one signaling gateway
2 coupled between the G-MSC and an originating MSC.

1 17. (Original) The cellular network of claim 14 further comprising at least one signaling gateway
2 coupled between the G-MSC and ~~a destination MSC~~ the destination MSC.

1 18. (Original) The cellular network of claim 17 wherein at least one of the first and second backup G-
2 MSC also operate as a primary G-MSC.

1 19. (Currently Amended) A signaling gateway for a cellular network coupled to communicate with a
2 destination switching element and ~~to at least one home location register~~ to at least one Home Location
3 Register (HLR), comprising:

4 a processor;

5 a memory for storing computer instructions that define the operation logic of the signaling
6 gateway, wherein the computer instructions include logic for:

7 receiving call signaling messages from ~~one of the HLR or an initiating MSC~~ the at least
8 one HLR or an initiating Mobile Switching Station (MSC);

9 determining whether the destination switching element is in an inactive state;

10 if the destination switching element is in an inactive state, determining a first backup
11 switching element; and

12 transparently forwarding the call signaling messages to ~~the backup switching element~~ the
13 first backup switching element.

1 20. (Currently Amended) The signaling gateway of claim 19 further including determining a second
2 backup switching element and ~~transparently~~ forwarding a first group of call signaling messages to the first
3 backup switching element and ~~transparently~~ forwarding a second group of call signaling messages to the
4 second backup switching element.